

FISHERIES MANAGEMENT AND EVALUATION PLAN

Oregon Coastal Coho, Siltcoos and Tahkenitch Lakes Coho Fishery

**Prepared by
Oregon Department of Fish and Wildlife
2501 SW 1st Ave.
Portland, Oregon 97207**

November, 2003

Title.

Fishery Management and Evaluation Plan Oregon Coastal Coho, MidCoast Area, Siltcoos and Tahkenitch Lakes Coho Salmon Fishery.

Responsible Management Agency.

Agency:	Oregon Department of Fish and Wildlife
Name of Primary Contact:	Bob Buckman
Address:	2040 SE Marine Science Dr.
City, State, Zip Code:	Newport, Oregon 97365
Telephone Number:	(541)867-0300 x224
Fax Number:	(541)867-0311
Email Address:	Robert.C.Buckman@state.or.us

Date Completed.

First draft May 20, 2003; final draft November 17, 2003

SECTION 1. FISHERIES MANAGEMENT

1.1) General objectives of the FMEP.

The purpose of this FMEP is to open a small recreational fishery for wild coho salmon in Siltcoos and Tahkenitch lakes. The proposed fishery will allow terminal harvest of healthy and stable coho salmon populations without harm to these coho salmon populations or coho in the remainder of the Oregon Coastal Coho Evolutionary Significant Unit (ESU). Objectives of this FMEP are as follows.

Objective 1: Provide an opportunity for sport anglers to harvest between 300 to 600 adult wild coho from Siltcoos lake and 200 to 400 adult coho from Tahkenitch lake in years when returns exceed the specified spawner abundances in Indicator 3 below. For the 2003 fishing season the maximum harvest will be 300 adult coho salmon from Siltcoos Lake and 200 adult coho salmon from Tahkenitch Lake.

Objective 2: Maintain the productivity of the two wild coho populations in Siltcoos and Tahkenitch lakes while providing a fishery on wild coho.

Objective 3: Provide a fishery on wild coho in Siltcoos and Tahkenitch lakes that is consistent with impact levels to the Oregon Coastal Coho ESU as outlined in the Pacific Fishery Management Council's (PFMC) Amendment 13 to the Salmon Fishery Management Plan and the subsequent harvest matrix developed by the Oregon Coastal Natural Coho (OCN) working group (Appendix A, Table A-1).

1.1.1) List of the "Performance Indicators" for the management objectives.

Performance indicators as they relate to management objectives are as follows.

1. Sport Fishery Contribution

- Indicator 1.* Statistical creel data shows a total harvest of adult wild coho salmon for the two lakes combined between 200 and the maximum allowable harvest.
- Indicator 2.* Statistical creel data shows angler effort of about four angler days per adult coho harvested.

2. Wild Coho Protection

- Indicator 3.* Annual spawning surveys indicate spawner abundance is at least 3,300 adults for Siltcoos Lake and 2,200 for Tahkenitch Lake. These values represent the upper bounds of the 90% confidence interval for the Maximum Sustained Production (MSP) spawner abundance.
- Indicator 4.* Annual spawning surveys show distribution of wild coho spawners throughout suitable habitat in each basin.

3. Fishery Impact Levels

- Indicator 5.* Statistical creel data and annual spawning surveys show exploitation rates that are consistent with the adopted harvest matrix for each wild coho population.

1.1.2) Description of the relationship and consistency of harvest management with artificial propagation programs.

No artificial propagation programs for anadromous fish occur in Siltcoos or Tahkenitch lake basins. Stocking of catchable rainbow trout has been phased out in Tahkenitch Lake and reduced to 2,500 fish annually in Siltcoos Lake. The terminal coho fishery will be coordinated with ocean salmon fisheries to keep cumulative impacts to wild coho salmon at levels allowed under Amendment 13 to the PFMC's Salmon Fishery Management Plan (PFMC, 1999) and the subsequent OCN working group harvest matrix (Table A-1).

1.1.3) General description of the relationship between the FMEP objectives and Federal tribal trust obligations. (This will be further addressed in section 4).

There are no Federal tribal trust obligations in this FMEP.

1.2) Fishery management area(s).

1.2.1) Description of the geographic boundaries of the management area of this FMEP.

This specific fishery will occur at Siltcoos and Takenitch lakes (Figure 1). Open areas include both lakes excluding the outlet channel from each lake, and excluding the upper portions of the arms of the lakes where major coho producing tributaries enter the lake. Major tributaries with closures around the mouth include Maple Creek and Fiddle Creek on Siltcoos, and Five Mile Creek and Leitell Creek on Tahkenitch. Tributary streams feeding into both lakes and the stream between the dam at the outlet of each lake and the ocean will remain closed.

The lake basins where this fishery will take place are within the Oregon Coastal Coho ESU and the South-Central sub-aggregate, as described in Amendment 13.

1.2.2) Description of the time periods in which fisheries occur within the management area.

Current angling regulations for Siltcoos and Tahkenitch lakes allow harvest of trout and warm water gamefish over the entire year. Harvest of coho salmon is prohibited.

Tributary streams feeding into Siltcoos and Tahkenitch lakes are open to fishing for cutthroat trout from late May to October 31. Angling is restricted to artificial flies and lures through August 31. Harvest of coho salmon is prohibited.

The proposed coho salmon fishery would occur from October 1 through December 31 with a daily limit of one adult plus one jack and a seasonal limit of up to five adults. Adult coho salmon are over 20 inches in length. Jack coho salmon are between 15 and 20 inches in length.

1.3) Listed salmon and steelhead affected within the Fishery Management Area specified in section 1.2.

Only Oregon coastal coho salmon would be affected within this Fishery Management Area. No other species of salmon or steelhead are listed as threatened or endangered under the Federal Endangered Species Act (ESA).

1.3.1) Description of “critical” and “viable” thresholds for each population (or management unit) consistent with the concepts in the technical document “Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units.”

Viable Threshold

The viable threshold for wild coho salmon spawner abundance in Siltcoos and Tahkenitch basins is the lower limit of MSP as described by Zhou (2000). For Siltcoos Lake this is 1,800 adult spawners and for Tahkenitch Lake 880 adult spawners. Long term productivity of the stocks will average greater than one recruit-per-spawner. Spawners will continue to be distributed throughout suitable habitat in both basins.

Critical Threshold

The critical threshold for Siltcoos and Tahkenitch basins is the lowest recorded coho spawner abundance observed since 1960, or productivity of either stock dropping below one recruit-per-spawner at low spawner abundance, or substantial gaps in spawner distribution. Critical abundance for the Siltcoos and Tahkenitch basins will be 368 and 105 adult spawners respectively. The critical threshold for jack coho salmon counts on spawning grounds is 113 in Siltcoos Lake and 62 in Tahkenitch Lake. These thresholds were chosen because they were the lowest spawner abundance estimates over the past 42 years. This critical threshold is likely above the actual threshold where either of these populations would be extinct in the short term. At this low level both populations exhibit a strong compensatory response and quick recovery time.

1.3.2) Description of the current status of each population (or management unit) relative to its “Viable Salmonid Population thresholds” described above. Include abundance and/or escapement estimates for as many years as possible.

Abundance

Both lakes have had spawner abundances above the viable threshold for nine of the last ten years (Figures 2 and 3 and Table 1 and 2). In recent years there has also been a general increase in spawner abundance in both lakes. Methods to estimate population abundance are discussed by Jacobs and Cooney, (1991).

Productivity

Adult coho recruits per spawner have generally been greater than one (Figures 4 and 5).

Spatial Structure

Current spawning distribution of coho salmon is throughout suitable spawning habitat in both basins (Figure 1).

Figure 1. Siltcoos and Tahkenitch Lakes Basins. (Coho spawning habitat in green)

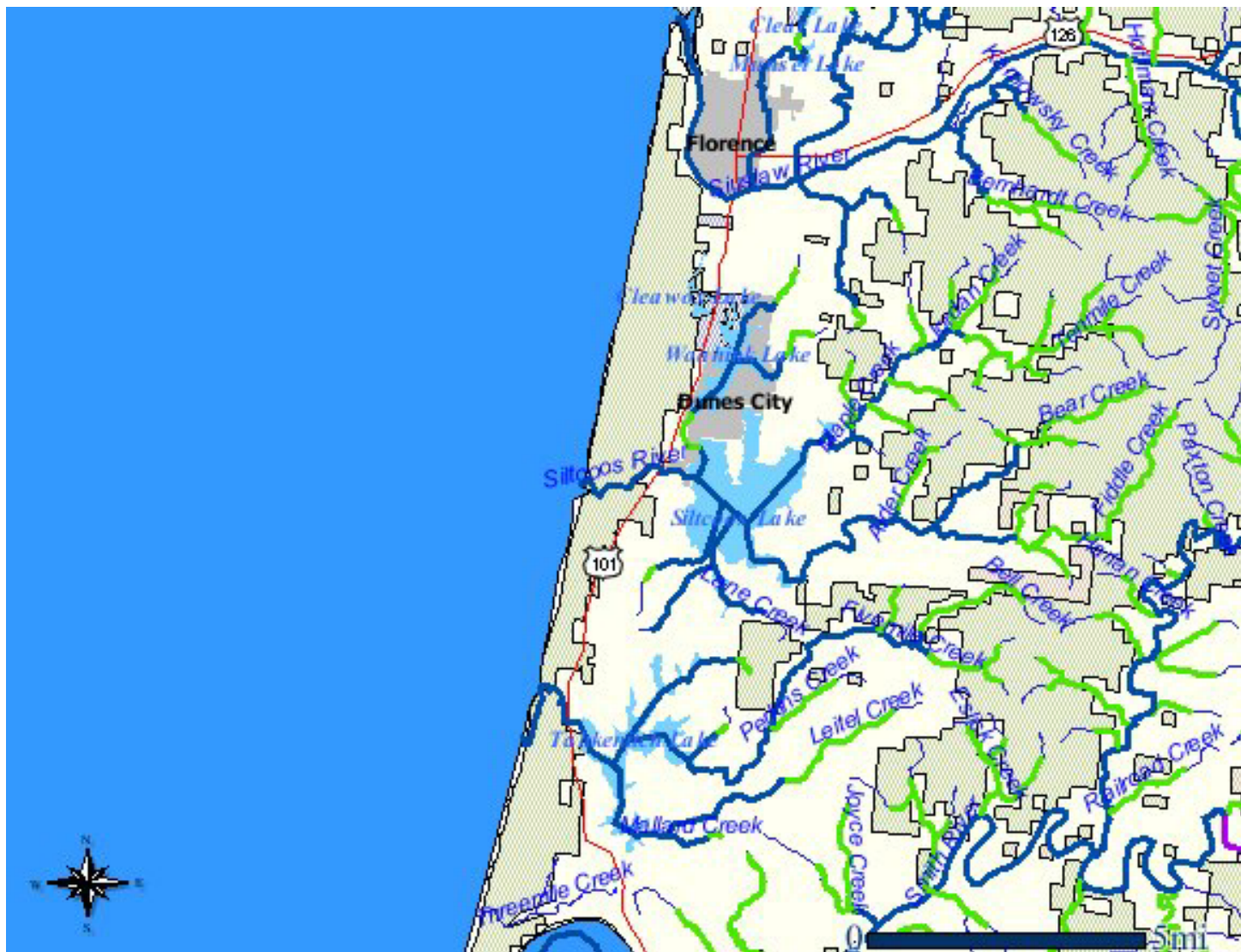


Figure 2.

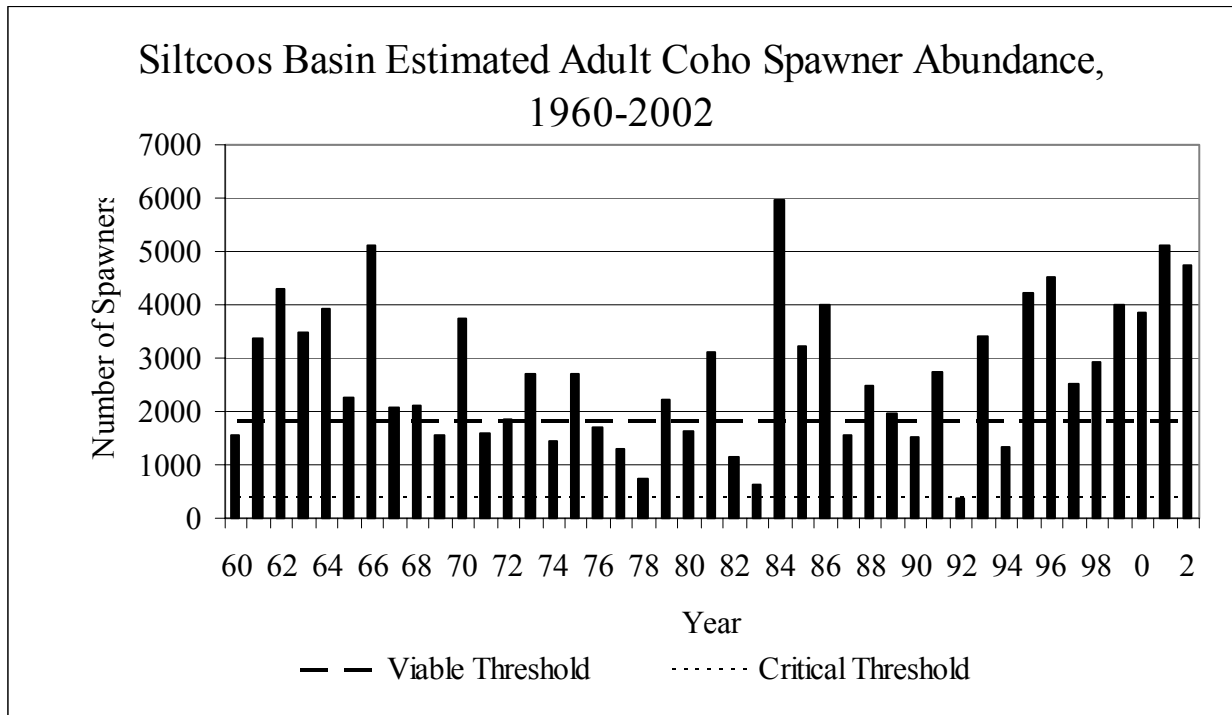


Figure 3.

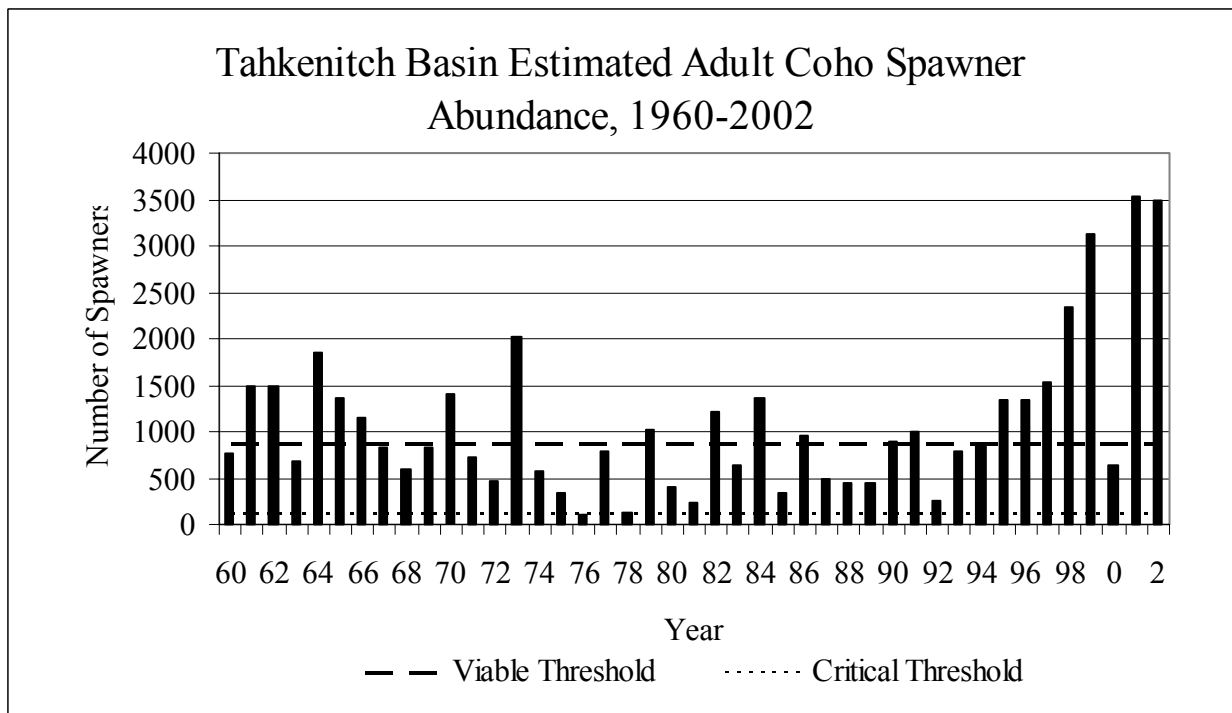


Figure 4.

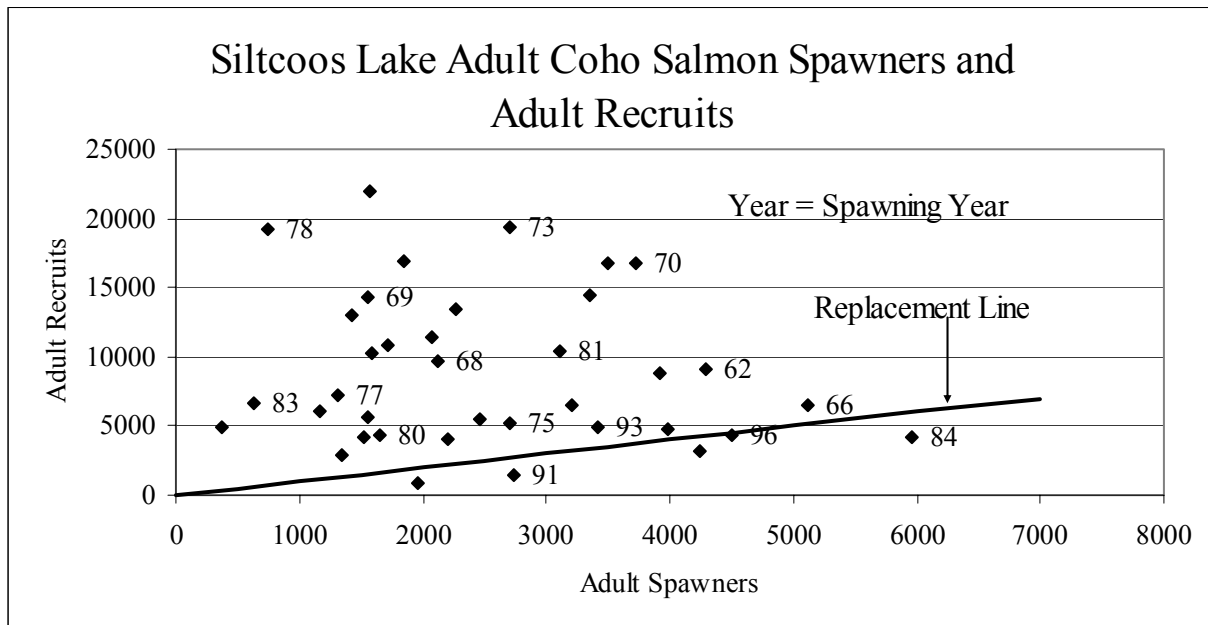


Figure 5.

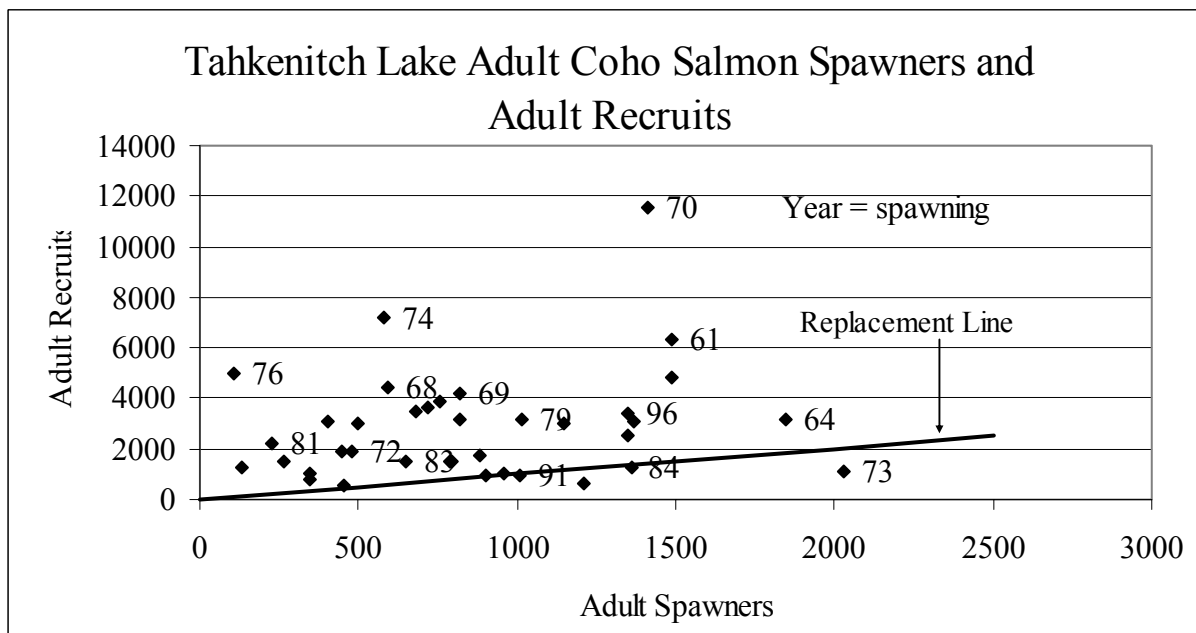


Table 1. Estimated spawner abundance of coho salmon in Siltcoos and Tahkenitch Lakes basins.

Year	<u>Siltcoos</u>		<u>Tahkenitch</u>	
	Adults	Jacks	Adults	Jacks
1960	1567	479	759	424
1961	3357	1178	1486	295
1962	4299	728	1485	189
1963	3494	2056	682	366
1964	3915	645	1849	398
1965	2264	1114	1367	454
1966	5122	568	1150	368
1967	2078	932	821	615
1968	2128	471	595	135
1969	1560	1938	821	863
1970	3723	942	1409	651
1971	1594	257	721	83
1972	1849	1264	477	559
1973	2705	792	2027	401
1974	1433	1917	582	521
1975	2697	696	349	920
1976	1722	412	105	82
1977	1312	359	786	176
1978	749	124	132	62
1979	2208	113	1017	169
1980	1645	300	406	163
1980	3108	1141	227	103
1982	1162	311	1210	559
1983	636	739	647	1446
1984	5953	1082	1360	546
1985	3212	1212	347	233
1986	3986	2090	955	457
1987	1555	238	495	262
1988	2468	283	449	160
1989	1963	651	451	472
1990	1529	419	899	796
1991	2730	317	1007	210
1992	368	187	264	641
1993	3415	402	791	192
1994	1345	731	880	420
1995	4240	923	1348	475
1996	4502	1405	1348	953
1997	2501	340	1539	805
1998	2943	963	2334	991
1999	4001	1168	3122	1714
2000	3835	1757	634	1071
2001	5104	436	3526	336
2002	4749	NA	3487	NA

Table 2. List of the natural fish populations, “Viable Salmonid Population” thresholds, and associated hatchery stocks included in this FMEP.

Natural Populations (or Management Units)	Critical Thresholds <i>(These are not relevant to the management of the fishery because escapement must exceed numbers in section 1.4.1)</i>	Viable Thresholds	Associated hatchery stock(s)	Hatchery stock essential for recovery? (Y or N)
Siltcoos Basin	Abundance: 368 adults/yr	Spawner abundance: 1,800 adults/yr Productivity: long term avg. replacement rate => 1	None	No
Tahkenitch Basin	Abundance: 105 adults/yr	Spawner abundance: 880 adults/year Productivity: long term avg. replacement rate => 1.	None	No

1.4) Harvest Regime

1.4.1) Provide escapement objectives and/or maximum exploitation rates for each population (or management unit) based on its status.

Spawner abundance objectives for the Siltcoos and Tahkenitch lake basins are the upper bounds of the 90% confidence interval for maximum sustained production. For the Siltcoos Basin this is a spawning abundance of 3,300 adult coho and for the Tahkenitch Basin it is 2,200 adult coho (Zhou, 2000).

If the adult coho return to the lakes is expected to exceed the above spawning abundances for each lake, then a fishery will be implemented. The quota of adult coho will depend upon the estimated run entering each lake. The goal is to have a minimum spawning escapement of 3,300 and 2,200 adults in Siltcoos and Tahkenitch lakes, respectively, *after* a lake fishery. The following sliding scale will be used to determine the fishery quota in each lake:

Number of Adult Coho Entering Lake	Lake Fishery Adult Quota
Siltcoos Lake	
<3300	No Fishery
3300-3900	No more than 300 fish
>3900	No more than 600 fish or max. allowable under Amendment 13, which ever is less
Tahkenitch Lake	
<2200	No Fishery
2200-2600	no more than 200 fish
>2600	No more than 400 fish or max. allowable under Amendment 13, which ever is less

Maximum exploitation rates for the entire fishing season will be held at less than or equal to levels identified in the harvest management matrix in Amendment 13 under the PFMC (Appendix A, Table A-1). This level applies to the total of all harvest impacts and can include incidental mortality from a selective fishery or direct mortality from a targeted fishery. National Oceanic and Atmospheric Administration (NOAA) Fisheries through the Section 7 consultation process under the Federal ESA have approved the PFMC harvest management approach.

The PFMC harvest matrix utilizes two variables to determine allowable impact rates - parental spawner abundance in each of four population sub-aggregates and marine survival as measured by hatchery jack coho survival. For the 2003 fishery, the parent spawner abundance in the south-central sub-aggregate of the Oregon coastal coho ESU (of which Siltcoos and Tahkenitch populations are a component) was 38,000 and marine survival was estimated as medium. Utilizing the matrix, these levels put the allowable fishery impact for the south-central area at 30% (harvest level O in the matrix, Table A-1). The fishery impact level approved by the PFMC for ocean harvest management is 15% for 2003 fisheries. This 15% mortality cap is based on a weak north-central sub-aggregate. It limits mixed stock ocean fisheries but provides an

opportunity for a terminal harvest of up to 15% of the pre-harvest abundance of wild coho from the south-central sub-aggregate.

Actual exploitation rates for the Siltcoos and Tahkenitch populations will likely be well below the maximum because of the restrictive nature of the fishery, and generally low susceptibility of coho salmon to harvest in freshwater. Past exploitation rates in Siltcoos and Tahkenitch lakes have averaged 13% and 3% respectively (Table 3). During past fisheries, both the lakes and streams between the lakes and ocean were open to harvest and the daily and seasonal bag limits were more liberal. In modeling impacts to coho from freshwater fisheries with seasons targeting coho, PFMC estimates a 10% encounter rate, reflecting the low susceptibility of coho to angler harvest in freshwater.

An annual quota or harvest ceiling will be used to assure the fishery does not exceed allowable exploitation rates. This harvest ceiling will be based on the allowable exploitation rate (from the harvest matrix and considering ocean fisheries) and a predicted population size. In the absence of a formal predictor model, a recent three year average population size will be used.. If a better forecast number is available in the future, then this estimate will be used instead of the recent average return. Catch estimates from the statistical creel surveys will be monitored in-season. If the harvest ceiling is met, the fishery will be closed. As more experience is gained on how this fishery impacts wild coho, it may become apparent that the restrictive nature of the fishery prevents harvest from reaching levels that threaten the productivity of the wild coho populations or reach the limits set by PFMC. If this becomes the case, a harvest ceiling, or quota, would not be necessary and the fishery would be self-regulating.

In future years, these terminal fisheries would be closed if overall harvest impact as determined under Amendment 13 was 15% or less for the south-central coho sub-aggregate. The fisheries would also be closed if ocean fisheries utilized the entire harvest impact, or if wild coho returns to these two lakes showed a persistent decline in abundance. Closing the fishery would reduce terminal area fishing mortality to less than 1% of the population.

1.4.2) Description of how the fisheries will be managed to conserve the weakest population or management unit.

The Siltcoos and Tahkenitch fisheries would be managed independently. Individually managing and annually reviewing the single population in each lake basin allows for quick detection of declining populations and a targeted response if necessary.

1.4.3) Demonstrate that the harvest regime is consistent with the conservation and recovery of commingled natural-origin populations in areas where artificially propagated fish predominate.

Artificially propagated coho salmon are not released in Siltcoos or Tahkenitch lake basins and are rarely seen in these basins as strays. The area proposed for the fishery does not have co-mingled natural-origin populations, therefore the harvest regime is designed to conserve each target population.

Hatchery coho predominate in the mixed stock ocean coho fisheries off Oregon. Ocean salmon fisheries generally impose a similar mortality on all co-mingled wild populations. There are not effective methods to increase harvest on strong populations and reduce impacts on weak populations.

Terminal harvest as proposed here can be used to selectively target healthy wild populations while avoiding weak ones. Terminal fisheries such as this provide a strong compliment to mixed stock ocean fisheries by allowing verifiable, controlled harvest impacts on a specific, healthy, stock component.

1.5) Annual Implementation of the Fisheries

Spawner abundance estimates and creel survey results for a given year's fishery will be available by the following February. The spawner and harvest estimates will provide the basis to maintain, adjust, or close the fishery. Harvest ceilings and any season adjustments will be developed in late-March of each year utilizing the criteria described in Section 1.4.1.

The process to annually consider regulations for the proposed fishery would be coordinated with ocean fisheries during the annual January through April regulation setting process. The regulations for these two lakes for the upcoming year would then be set at the April meeting of the OFW Commission when ocean regulations for areas inside three miles are finalized. Final determination of annual regulations for these fisheries could also be considered at the August meeting of the OFW Commission when annual updates are made to freshwater sport fishing regulations.

SECTION 2. EFFECTS ON ESA-LISTED SALMONIDS

2.1) Description of the biologically-based rationale demonstrating that the fisheries management strategies will not appreciably reduce the likelihood of survival and recovery of the affected ESU(s) in the wild.

The limited nature of the fisheries in Siltcoos and Tahkenitch lakes will not appreciably impact the survival and recovery of wild coho in the Oregon coastal ESU. The fisheries will target only the wild coho in the two lakes and will be structured in a way that minimizes risk to those populations.

The Siltcoos and Tahkenitch coho salmon populations would be managed with the expectation of achieving spawner abundance at the upper 90% confidence interval for MSP. For the Siltcoos and Tahkenitch populations respectively, this would mean an annual adult spawner abundance of 3,300 and 2,200 adults or more annually.

The 2002 total return of coho salmon to the Oregon Coastal ESU was estimated to be 264,335. This includes both river and lake populations. As a percentage of the total ESU, Siltcoos Basin comprised 1.8% of the total return and Tahkenitch Basin comprised 1.3% of the total return.

The fishery exploitation rate on wild coho from these two basins has historically been much higher than anything that would be considered in the future (Table 3, Figure 7). In the past, lakes basin coho populations have been able to recover quickly from high harvest rates, indicating strong compensatory responses by both populations.

Spawning abundance data and harvest data will be reviewed annually for consistency with management objectives and to ensure impacts are within allowed limits. If the fishery is within allowable limits and spawner abundance is adequate, there will be no changes necessary. If the fishery exceeds limits or spawning abundance declines, the fishery will be modified.

The proposed fisheries in Siltcoos and Tahkenitch lakes will be managed consistent with impact levels to the Oregon Coastal Coho ESU as outlined in the PFM's Amendment 13 to the Salmon Fishery Management Plan and the subsequent harvest matrix developed by the OCN working group (Table A-1). These impact levels and the harvest matrix are intended to rebuild the wild coho populations in the ESU and have been reviewed and approved by NOAA Fisheries through the Section 7 consultation process under the Federal ESA.

Amendment 13 allows increased mortality (30% total as compared with 15% in 2002) to the south-central aggregate of the Oregon coastal coho ESU for the 2003 season. It does not matter whether this increased mortality to wild coho is via an incidental chinook fishery in the ocean, or a terminal fishery on wild coho in Siltcoos and Tahkenitch lakes - the biological impacts are the same. Allowing this increased mortality to occur as a result of freshwater fisheries in selected terminal areas such as Siltcoos and Tahkenitch lakes presents less risk to the ESU than mortality from a mixed stock ocean fishery. The freshwater fishery will target the healthy Siltcoos and Tahkenitch coho populations and will not impact other weaker populations in the ESU.

An advantage of wild coho harvest in Siltcoos and Tahkenitch lakes is that impacts can be directly measured using a statistical creel survey. This contrasts with ocean fisheries where wild coho mortality is estimated based on assumed encounters in fisheries targeting chinook or fin

clipped hatchery coho and assumptions on hook and release mortality in each of these encounters. These indirect estimates of harvest impacts on wild coho create the potential for error and are difficult to verify. Biological risk is reduced by the more direct impact assessment allowed by the lake fisheries.

2.1.1) Description of which fisheries affect each population (or management unit).

Ocean fisheries will have an affect on both the Siltcoos and Tahkenitch lakes coho salmon populations. These fisheries have been approved by NOAA Fisheries with impact levels to wild coho guided by Amendment 13. The target coho salmon fishery in each lake will have an effect on the population within the basin and will have no affect on other coho salmon populations within the Oregon Coastal Coho ESU.

2.1.2) Assessment of how the harvest regime will not likely result in changes to the biological characteristics of the affected ESUs.

The proposed harvest regime will not result in changes to the biological characteristics of the Oregon coast ESU. The Siltcoos and Tahkenitch lakes coho salmon populations comprise a small component of the entire ESU. There are no artificial propagation programs within these two populations to alter population characteristics. The proposed fisheries should be non-selective. Fisheries are not limited to the beginning or end of the run so harvest should not have an affect on run timing, age structure, or fecundity. Given the small percentage of the total ESU population and structure of the fishery, it is unlikely to result in changes to the biological characteristics of Siltcoos or Tahkenitch lake coho or the Oregon Coastal Coho ESU.

2.1.3) Comparison of harvest impacts in previous years and the harvest impacts anticipated to occur under the harvest regime in this FMEP.

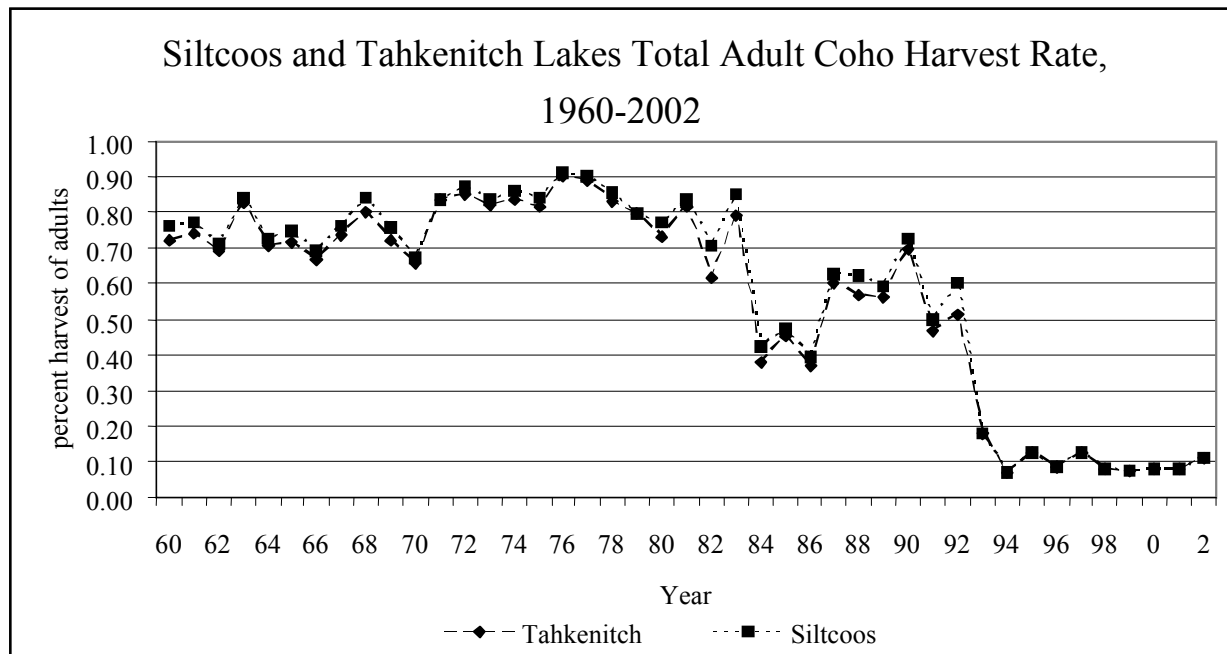
Harvest rates on Siltcoos and Tahkenitch lakes coho salmon will increase moderately from the low levels between 1993 and 2001, but will be well below the long term average (Table 3, Figure 7).

Harvest rates on adult coho salmon in the Siltcoos and Tahkenitch lake basins averaged 13 % and 3 % respectively for 1969-92. Harvest rates in the proposed fisheries are likely to be lower than these estimates. The new fishery will have additional restrictions including a bag limit of one adult per day and five per year, closure of the streams between the lakes and the ocean, closure of the outlet channel from the lakes and closures of the upper part of the inlet of major coho spawning streams. Previous fisheries had bag limits of two adults per day and 40 per year, included the streams going to the ocean, and had a season open the entire year on the lakes, and the entire year except a closure during April and most of May in the outlet streams.

Table 3. Harvest rates on Siltcoos and Tahkenitch Basins adult coho populations.

	Siltcoos			Tahkenitch		
Year	Freshwater	Ocean	Total	Freshwater	Ocean	Total
1960	18	71	76	4	71	72
1961	16	73	77	4	73	74
1962	10	68	71	3	68	69
1963	20	80	84	12	80	82
1964	9	70	73	2	70	70
1965	13	71	75	2	71	72
1966	14	64	69	7	64	67
1967	12	73	76	3	73	74
1968	30	77	84	14	77	80
1969	19	70	76	8	70	72
1970	5	65	67	2	65	66
1971	6	83	84	7	83	84
1972	17	84	87	4	84	85
1973	9	82	84	1	82	82
1974	15	84	86	1	84	84
1975	13	81	84	1	81	82
1976	11	90	91	4	90	90
1977	9	89	90	1	89	89
1978	17	83	85	2	83	83
1979	0	79	79	0	79	79
1980	15	73	77	0	73	73
1981	14	81	84	0	81	82
1982	24	62	71	0	62	62
1983	30	79	85	0	79	79
1984	15	32	43	8	32	38
1985	7	43	74	3	43	45
1986	9	34	40	5	34	37
1987	7	60	63	1	60	60
1988	13	57	62	0	57	57
1989	9	55	59	2	55	56
1990	12	59	73	2	59	70
1991	8	45	50	3	45	47
1992	19	51	60	0	51	51
1993	0	18	18	0	18	18
1994	0	7	7	0	7	7
1995	0	12	12	0	12	12
1996	0	8	8	0	8	8
1997	0	12	12	0	12	12
1998	0	8	8	0	8	8
1999	0	8	8	0	8	8
2000	0	8	8	0	8	8
2001	0	8	8	0	8	8
2002	0	11	11	0	11	11
2003*	18	15	30	15	15	30
2004*	18	15	30	15	15	30

* Projected maximum harvest rates.

Figure 7.

2.1.4) Description of additional fishery impacts not addressed within this FMEP for the listed ESUs specified in section 1.3. Account for harvest impacts in previous year and the impacts expected in the future.

Other fishery impacts within the Oregon Coastal Coho ESU that are not part of this FMEP are those occurring in ocean fisheries.

SECTION 3. MONITORING AND EVALUATION

3.1) Description of the specific monitoring of the “Performance Indicators” listed in section 1.1.3.

Performance indicators 1, 2, and 5 will be monitored and evaluated using a statistical creel survey on both lakes during the coho fishery. This survey will be designed so that estimates of harvest, harvest rate, and catch-per-unit-effort can be determined with some level of accuracy.

Spawning surveys will be conducted annually on both Siltcoos and Tahkenitch lake basins and throughout the ESU to measure spawner abundance and populations trends. These surveys would monitor and evaluate performance indicators 3, 4, and 5.

Adult and jack coho salmon spawner abundance has been measured for the past 42 years on five standard survey stream reaches in the Siltcoos Lake Basin and two standard survey stream reaches in the Tahkenitch Lake Basin. Randomly selected stream reaches have also been surveyed for spawners since 1991.

3.2) Description of other monitoring and evaluation not included in the Performance Indicators (section 3.1) which provides additional information useful for fisheries management.

Other monitoring or evaluations would include anecdotal information from anglers and the public, public input on closed areas and overall success of the fishery.

3.3) Public Outreach

Public outreach would be accomplished through announcements at the monthly meeting of the Florence Salmon and Trout Enhancement Program, articles in local and regional newspapers, local watershed council meetings, the Oregon Department of Fish and Wildlife Commission meeting, and the Ifish.net discussion board. The announcements would indicate areas that would be closed to fishing for coho salmon, seasons, and fishing gear allowed. If immediate changes to the fishery are needed, signs would be placed at all boat ramps and announcements would be made at the above mentioned outreach opportunities.

3.4) Enforcement

Enforcement would be by the Oregon State Police and Lane County Sheriff through routine checks of anglers and volunteers observing angling violations and reporting violations to local authorities. Siltcoos and Tahkenitch lakes are generally not susceptible to violations.

3.5) Schedule and process for reviewing and modifying fisheries management.

3.5.1) Description of the process and schedule that will be used on a regular basis (e.g. annually) to evaluate the fisheries, and revise management assumptions and targets if necessary.

The schedule and process for reviewing and modifying management for the Siltcoos and Tahkenitch lakes coho fishery will be annually in association with ocean fisheries planning. During each annual review, modifications to the lakes fishery will be implemented to ensure impacts do not reduce spawner abundance below desired levels and are within allowed limits as identified by Amendment 13. Since there are uncertainties in forecasting the abundance of coho salmon, ODFW will strive to improve the predictive capabilities for coho returning annually to these lakes to assure impacts do not exceed expectations. ODFW will use a precautionary approach by using the lowest estimate of the forecasted run of coho to the lakes when establishing the fishery quota for the upcoming season.

Annual reviews of the Siltcoos and Tahkenitch fisheries will include angler harvest, angler effort, and spawner abundance data. Additional anecdotal information from anglers and the public on successes or failures of the fisheries will be considered. In-season results from the statistical creel surveys will be monitored for consistency with the harvest ceiling. If the ceiling is met, the fishery will be closed.

ODFW will annually submit a summary report to NOAA Fisheries (c/o Branch Chief, Inland Fisheries, Salmon Recovery Division, 525 NE Oregon St. Suite 510, Portland, OR 97232) describing the previous years coho harvest, angler effort, and spawner abundance. The report will also include the forecasts of coho abundance for the upcoming year and the plans for a fishery in the upcoming season (if any), including the dates of the fishery and fish quota for each lake. The report will be provided to NOAA Fisheries no later than June 1. NOAA Fisheries will review the annual report and provide written approval of ODFW's plans for the upcoming lakes fishery.

Formal recovery planning efforts are currently underway for the Oregon Coast coho ESU. This FMEP may be reassessed or revised if the assumptions or management strategies in this FMEP are inconsistent with analysis or recommendations developed by the Technical Recovery Team (TRT). The Viable Abundance levels specified in this FMEP will be revised if necessary once the TRT publishes formal Viability Guidelines for the Oregon Coast coho ESU.

3.5.2) Description of the process and schedule that will occur every X years to evaluate whether the FMEP is accomplishing the stated objectives. The conditions under which revisions to the FMEP will be made and how the revisions will likely be accomplished should be included.

Evaluation of whether this FMEP is accomplishing its objectives will be conducted every three years to encompass a full brood cycle. Additionally, the fishery will be reviewed annually and summaries of spawner abundance and statistical creel surveys will be presented and compared with expectations.

If spawner abundance declines below the 90% confidence interval for MSP or if fishery impacts exceed allowable levels, ODFW will revise the original FMEP and resubmit it to NOAA Fisheries.

SECTION 4. CONSISTENCY OF FMEP WITH PLANS AND CONDITIONS SET WITHIN ANY FEDERAL COURT PROCEEDINGS

There are no Federal tribal trust obligations in this FMEP.

Literature Cited

- Jacobs, S. E. and C. X. Cooney. 1991. Improvement of methods used to estimate the spawning of Oregon coastal natural coho salmon. Progress Reports, Oregon Dept. of Fish and Wildlife.
- Zhou, S. 2000. Stock assessment and optimal escapement of coho salmon in three Oregon coastal lakes. Information Reports Number 2000-07. Oregon Department of Fish and Wildlife, Fish Division. Portland, Oregon.
- Pacific Fishery Management Council. 1999. Final Amendment 13 to the Pacific coast salmon plan. Portland, Oregon.

Appendix A

Table A-1. The harvest management matrix in PPMC Plan Amendment 13 showing allowable fishery impacts and ranges of resulting recruitment for each combination of parental spawner abundance and marine survival. (Includes revisions made by the OCN work group in 2000.)

Parent Spawner Status ^{1/}	Marine Survival Index (based on return of jacks per hatchery smolt)						
	Extremely Low (<0.0008)	Low (0.0008 to 0.0014)	Medium (>0.0014 to 0.0040)	High (>0.0040)			
High Parent Spawners > 75% of full seeding	E ≤ 8%	J ≤ 15%	O ≤ 30%	T ≤ 45%			
Medium Parent Spawners > 50% & ≤ 75% of full seeding	D ≤ 8%	I ≤ 15%	N ≤ 20%	S ≤ 38%			
Low Parent Spawners > 19% & ≤ 50% of full seeding	C ≤ 8%	H ≤ 15%	M ≤ 15%	R ≤ 25%			
Very Low Parent Spawners > 4 fish per mile & ≤ 19% of full seeding	B ≤ 8%	G ≤ 11%	L ≤ 11%	Q ≤ 11%			
Critical ^{2/} Parental Spawners ≤ 4 fish per mile	A 0 - 8%	F 0 - 8%	K 0 - 8%	P 0 - 8%			
Sub-aggregate and Basin Specific Spawner Criteria Data							
Sub-aggregate	Miles of Available Spawning Habitat	100% of Full Seeding	"Critical"		Very Low, Low, Medium & High		
			4 Fish per Mile	12% of Full Seeding	19% of Full Seeding	50% of Full Seeding	75% of full Seeding
Northern	899	21,700	3,596	NA	4,123	10,850	16,275
North - Central	1,163	55,000	4,652	NA	10,450	27,500	41,250
South - Central	1,685	50,000	6,740	NA	9,500	25,000	37,500
Southern	450	5,400	NA	648	1,026	2,700	4,050
Coastwide Total	4,197	132,100	15,636		25,099	66,050	99,075

1/ Parental spawner abundance status for the OCN aggregate assumes the status of the weakest sub-aggregate.

2/ "Critical" parental spawner status is defined as 4 fish per mile for the Northern, North-Central, and South-Central sub-aggregates. Because the ratio of high quality spawning habitat to total spawning habitat in the Rogue River Basin differs significantly from the rest of the basins on the coast, the spawner density of 4 fish per mile does not represent "Critical" status for that basin. Instead, "Critical" status for the Rogue Basin (Southern Sub-aggregate) is estimated as 12% of full seeding of high quality habitat.